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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,335	12/30/2003	Suzanne Walker Kahne	4555-121 US	8137

7590 10/31/2005

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EXAMINER
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MARTIN, PAUL C

ART UNIT	PAPER NUMBER
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1655

DATE MAILED: 10/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/748,335

Applicant(s)

KAHNE ET AL.

Examiner

Paul C. Martin

Art Unit

1655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 12-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 05/03/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

Claims 1-20 are pending in this application.

#### ***Election/Restrictions***

Applicant's election without traverse of Group I (Claims 1-11) in the reply filed on 10/03/05 is acknowledged. Claims 12-20 are therefore withdrawn from examination on the merits as being directed toward a non-elected invention. Claims 1-11 were examined on their merits.

#### ***Drawings***

Figures 1, 2, 4, 5, and 6 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Branstrom *et al.* (2000) in view of Helm *et al.* (2002) and Lazar *et al.* (2002)

Branstrom *et al.* teaches a method for identifying compounds which inhibit the glycosyltransferase by combining a glycosyltransferase, a labeled substrate, and a compound in a reaction vessel under conditions suitable for binding of the glycosyltransferase to the substrate, measuring the amount of labeled substrate converted by the glycosyltransferase, and comparing the amount to a standardized amount to identify a relative increase or decrease in substrate converted by the glycosyltransferase, thereby identifying a compound that modulates the ability for the glycosyltransferase to convert an substrate. (Pg. 188, Column 1, Lines 5-28 and Fig. 1, Pg.189, Figs. 2 and 3)

The method employed by Branstrom *et al.* teaches the use of the NDP-glycosyltransferase MurG and the radiolabeled substrate UDP-GlcNac. (Pg. 188, Fig.1)

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Branstrom *et al.* does not teach the measurement of the amount of labeled substrate bound to the glycosyltransferase, the use of the method to identify a compound that specifically inhibits the ability of a glycosyltransferase to *bind* a substrate, the use of the fluorophore fluorescein, or a labeled substrate which is a UDP-GlcNac analogue.

Helm *et al.* teaches the method of identifying a compound that modulates the ability of glycosyltransferase MurG to bind to its substrate Lipid 1 by using a direct assay to monitor the activity of MurG using synthetic Lipid 1 analogs. The method also incorporates a fluorescein labeled derivative of the inhibitory compound in order to confirm binding of the compound to the MurG. (Pg. 13970, Column 1, Lines 9-14 and 32-36, and Fig. 3)

Lazar *et al.* teaches the development of substrate and substrate analogs in the study of peptidoglycan synthesizing enzymes and the importance of substrates that facilitate studies on isolated enzymes in providing useful information in structural analysis and the design of inhibitors. (Pg. 786, Column 2, Lines 21-22 and Pg. 790, Column 2, Lines 8-12 and 25-27)

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to combine the experimental method of Branstrom *et al.* with the use of a labeled substrate analog to measure and compare *binding* of the glycosyltransferase because the use of fluorescent labels was well known at the time of the instant invention as conventional in the art of molecule labeling and the use of substrate analogs can prove advantageous in the study of enzymes as suggested by Lazar *et al.* Moreover, the person with ordinary skill in the art would have been motivated to refine the experiment to determine compound that specifically modulate glycosyltransferase by identifying compounds that actually bind to the glycosyltransferase and would have had a reasonable expectation of success because that is the logical narrowing of scope from determining compounds that merely inhibit the glycosyltransferase in some fashion on a less defined scale.

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole is *prima facie* obvious to one with ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

**No Claims are allowed.**

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul C. Martin whose telephone number is 571-272-3348. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bruce Campell can be reached on 571-272-0974. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Paul Martin  
Examiner  
Art Unit 1655

10/24/05

**PATRICIA LEITH**  
**PRIMARY EXAMINER**

A handwritten signature in black ink, appearing to read 'Patricia Leith', written in a cursive style.